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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,368	12/09/2003	Kenneth Boyd	81092489FGT1890	1367
28549	7590	05/15/2007		
ARTZ & ARTZ, P.C. 28333 TELEGRAPH ROAD, SUITE 250 SOUTHFIELD, MI 48034			EXAMINER THORNEWELL, KIMBERLY A	
			ART UNIT 2128	PAPER NUMBER
			MAIL DATE 05/15/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

10/707,368

Applicant(s)

BOYD ET AL.

Examiner

Kimberly Thornewell

Art Unit

2128

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 20 April 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.  
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: 1-9.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
    See Continuation Sheet.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_  
13. ☐ Other: \_\_\_\_\_.

Continuation of 11. does NOT place the application in condition for allowance because: The Examiner respectfully maintains that it would have been obvious to modify the teachings of Sharp with the teachings of Peng in order to arrive at the invention as set forth in independent claims 1, 4 and 7.


Applicants argued that no valid reason has been shown why one of skill in the art would combine the references as suggested in the Office Action, "particularly in view of Sharp's sole concern for the study of path following errors" (Remarks page 5 third paragraph), and that "it is not necessary to introduce considerations of path radius of curvature" in order solve Sharp's tracking control problem (Remarks page 6 first full paragraph). The Examiner respectfully traverses these arguments.

In response to Applicants' argument that Sharp has a sole concern for the study of path following errors, the Examiner respectfully points out that Sharp teaches that in order to minimize the path error, it is necessary to determine a look ahead point that is scaled based on the travel speed of the simulated car. See for example, Sharp page 16, second paragraph. Particularly lines 1-3 teach Sharp's concern for determining a look ahead point (preview time), the determination being scaled based on the travel speed of the simulated vehicle.

In response to Applicants' argument that Sharp does not require considerations of path radius of curvature, the Examiner respectfully points to page 16, third paragraph. In this paragraph Sharp states that the controlled car can precisely track paths containing reasonable curvatures, and that deviations occur if there are sharp changes of direction. Accordingly, the Examiner submits that Sharp teaches that the curvature is in fact taken into account when determining optimal path control.

Importantly, the Examiner respectfully points out that, contrary to Applicants' assertion, independent claims 1, 4 and 7 of the present application do not set forth a "preview time based upon the road radius of curvature," as none of the claims disclose "preview time." However, as the Final Office Action states, Sharp does not disclose expressly "determining look ahead scale factor as a function of the intended path radius of curvature." The Peng reference was relied on for this limitation at page 9 equation 17. Peng, like Sharp, is devoted to minimizing error in vehicle lateral guidance (see Peng page 6 paragraph 2).

Therefore, the Examiner respectfully traverses Applicants' argument that no valid reason has been shown why one of skill in the art would combine the references as suggested in the Office Action. As stated above, Sharp teaches taking curvature into account for precise track following. Although not disclosed expressly in Sharp, the radius of curvature is also inherently taken into account, as one of skill in the art would know that the radius of curvature is equal to the inverse of the curvature (see Peng page 6 paragraph 2, for example). Peng uses the curvature (and inherently the radius of curvature) at page 9 equation 17 in order to achieve the look-ahead scale factor as set forth in claims 1, 4 and 7. The Examiner points out the the motivation to modify Sharp's system for optimal vehicle guidance including curvature as path information with Peng's utilization of the radius of curvature would have been to further minimize the tracking error by using curvature information in order to obtain optimal preview control for vehicle lateral guidance (Sharp summary, also Peng page 6 paragraph 2).

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